Exam Practice
Sample Assessment

Rockhill Music Festival

Task Scenario

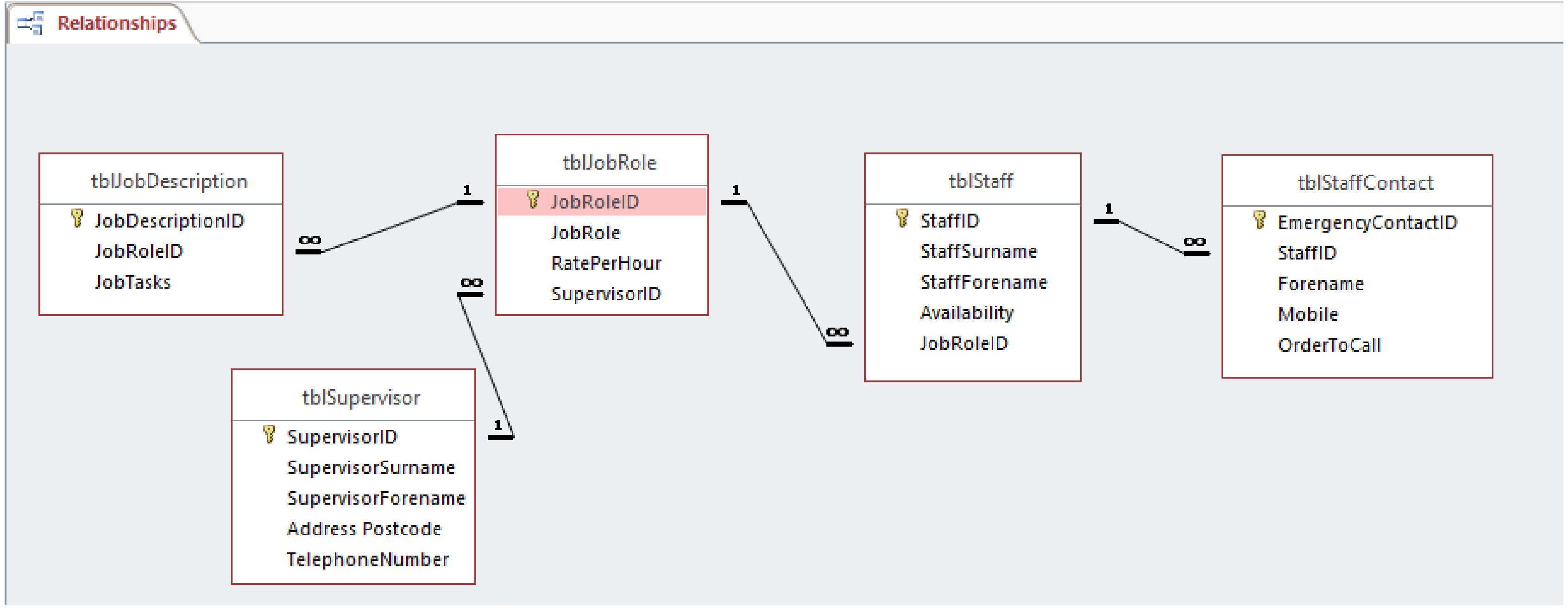
‘Rockhill Music Festival’ has partially developed a database that will eventually be merged with the database you created in **Part A**.

The festival needs staff to manage the event, for example bartenders.

There must be enough staff to manage both days of the festival. Some staff can work on the Friday, some on the Saturday and some on both days.

The database will record information about the staff and management of the event.

Tables and Relationships



Note

- The structure of the tables provided should not be changed in any way e.g. do not add validation, do not change data types.
- You will **only** be required to use tblStaff and tblJobRole

Activity 6: Forms (1 hour 10 minutes) – 14 marks

(a) Create an efficient interface that will facilitate database input by producing:

(i) an input form to add a member of staff.

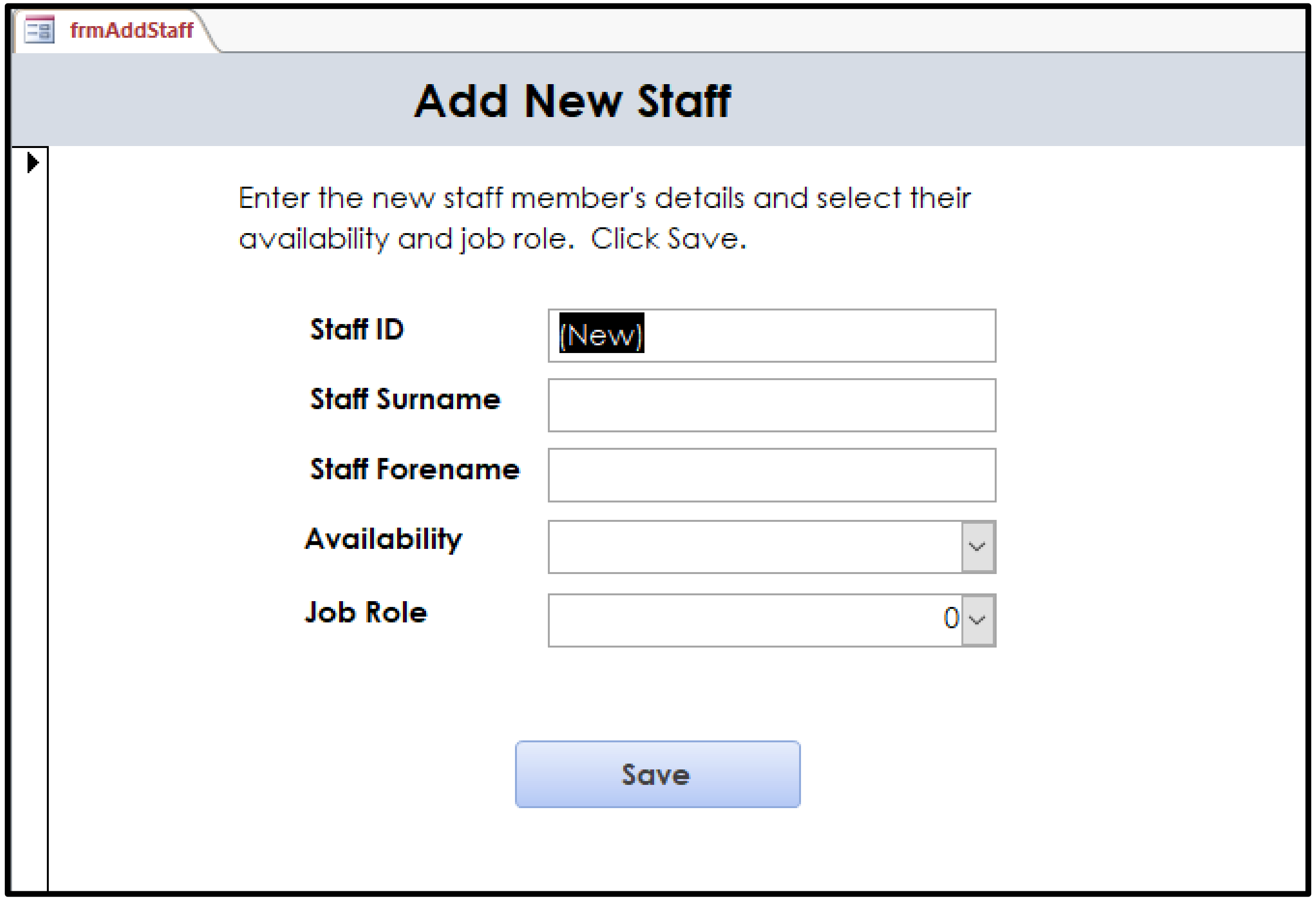
- The form should be ready for data entry.
- The staff member’s surname must be present.
- The user should be able to select the staff member’s job role.
- The user should be able to select the staff member’s availability.
- Valid data should be appended to the staff table and a save message should display.
- A suitable error message should appear where invalid data has been used.

Activity 6: Forms – Add Staff

Note

The form should be linked to tblStaff (Control Source Property)

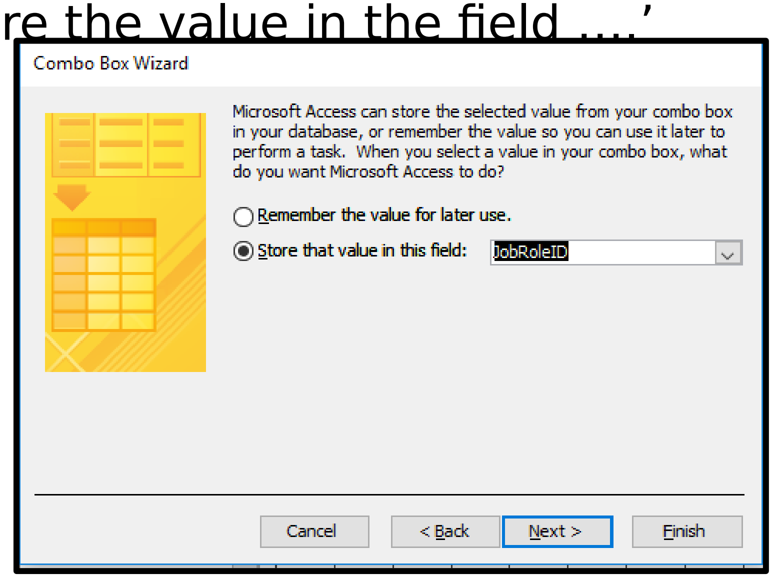
- Remove the Availability and Job Role fields and replace with combo boxes
- Type the values in the Availability combo box – but on the final wizard step ‘store that value in the field: Availability’
- The Job Role combo box should look up the value in tblJobRole – and again ‘store the value in the field ….’



Add New Staff

Enter the new staff member's details and select their availability and job role. Click Save.

Staff ID	(New)
Staff Surname	
Staff Forename	
Availability	
Job Role	0

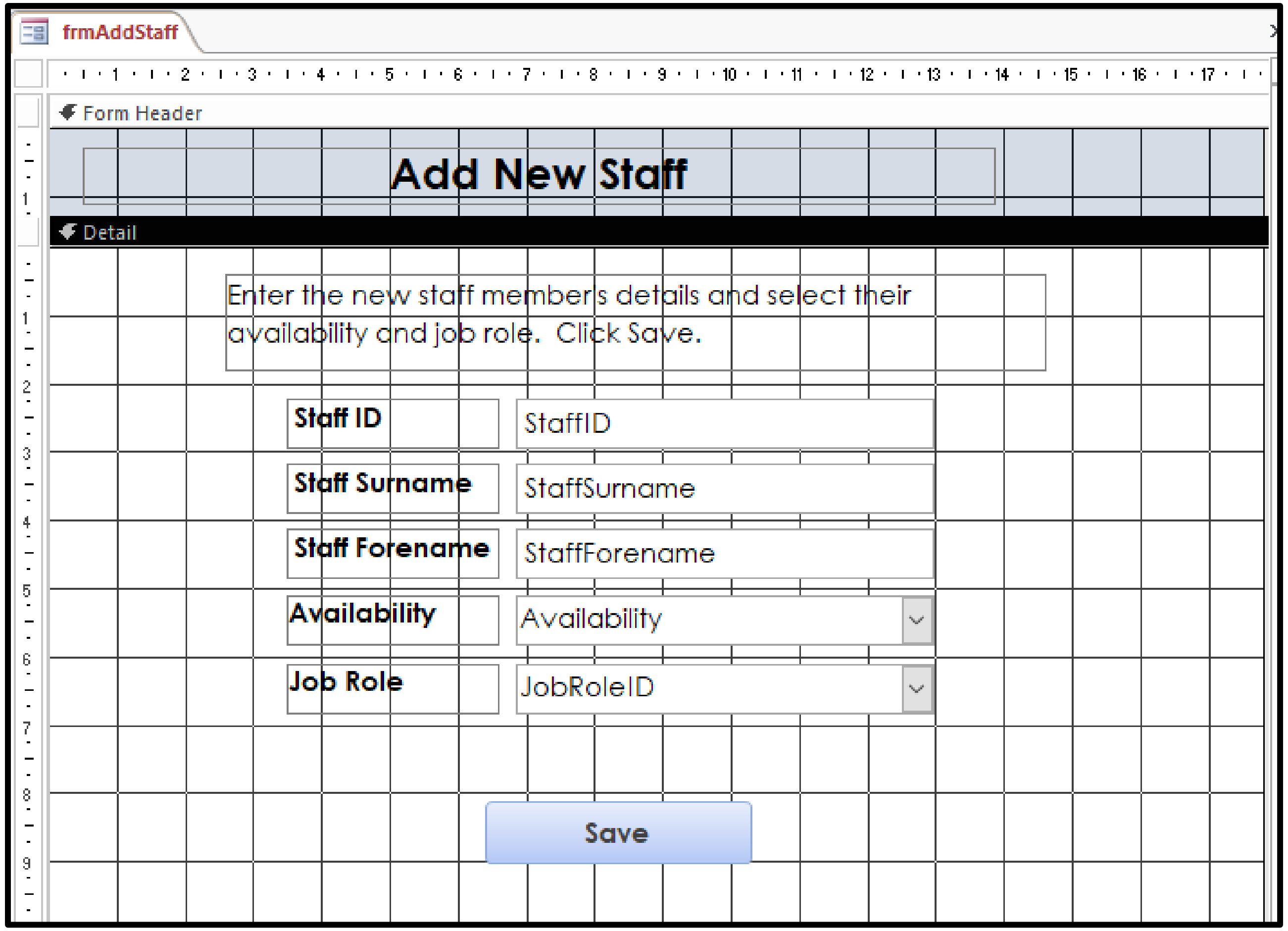

Combo Box Wizard

Microsoft Access can store the selected value from your combo box in your database, or remember the value so you can use it later to perform a task. When you select a value in your combo box, what do you want Microsoft Access to do?

○ Remember the value for later use.

● Store that value in this field: JobRoleID

Activity 6: Forms – Add Staff



frmAddStaff

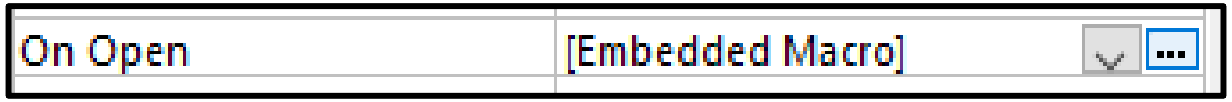
Form Header

Add New Staff

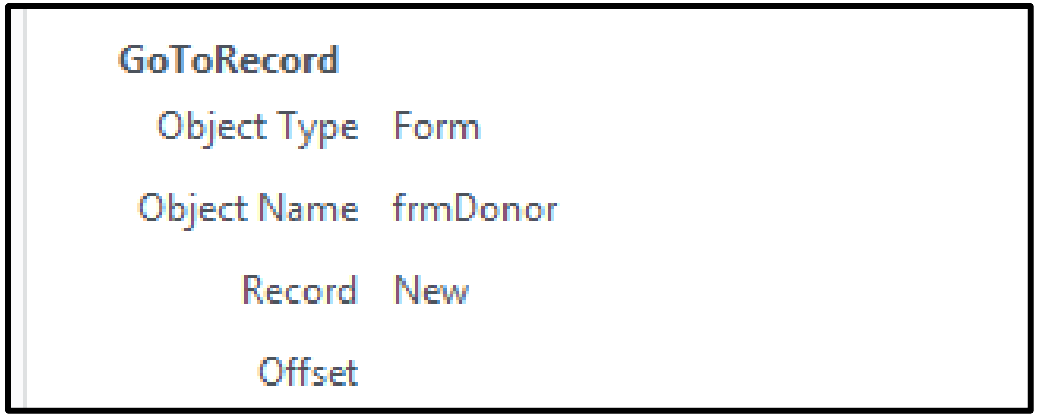
Detail

Enter the new staff member's details and select their availability and job role. Click Save.

Staff ID	StaffID
Staff Surname	StaffSurname
Staff Forename	StaffForename
Availability	Availability
Job Role	JobRoleID



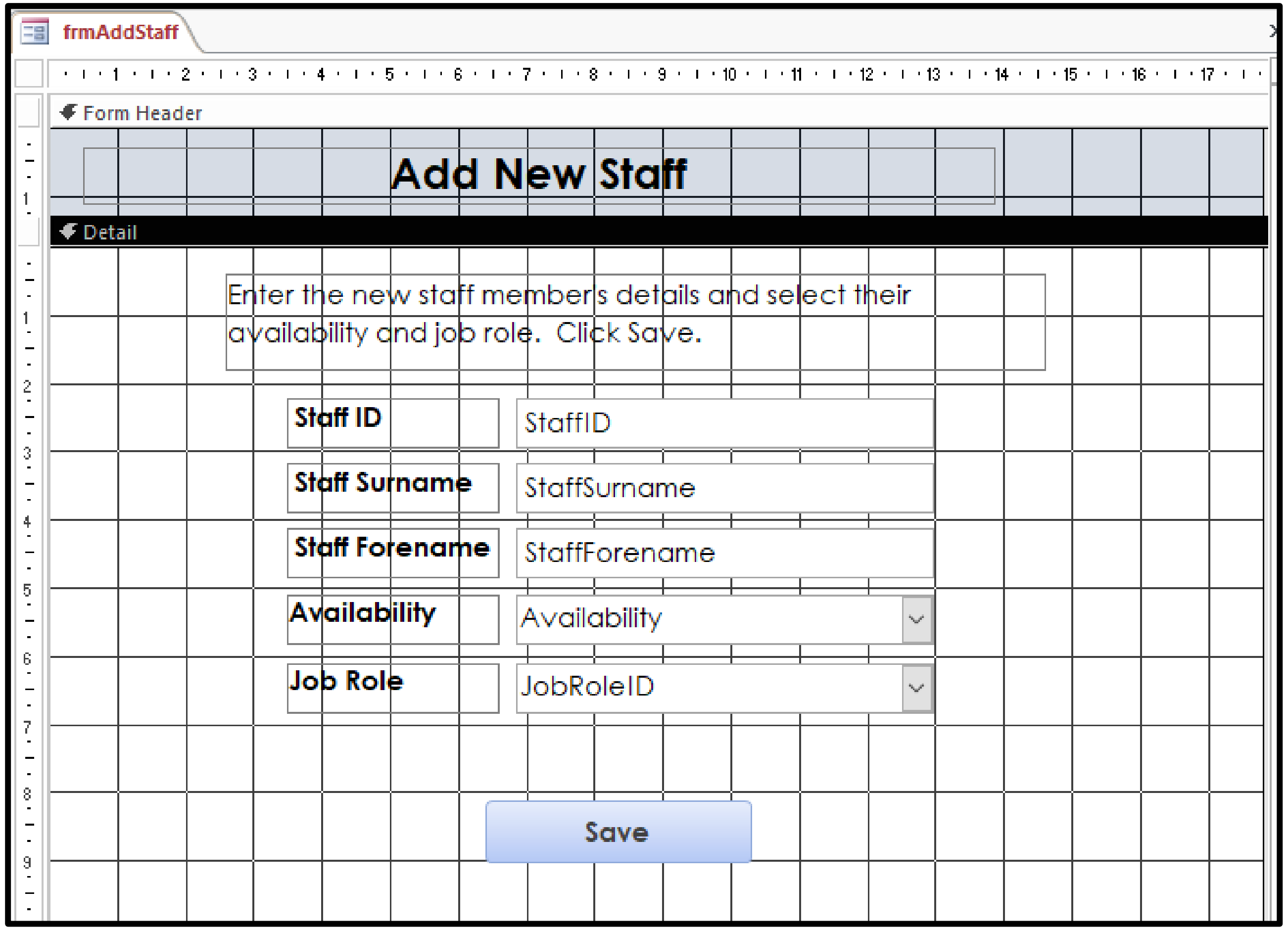
On Open	[Embedded Macro]



GoToRecord

Object Type	Form
Object Name	frmDonor
Record	New
Offset	

Activity 6: Forms – Add Sta



frmAddStaff

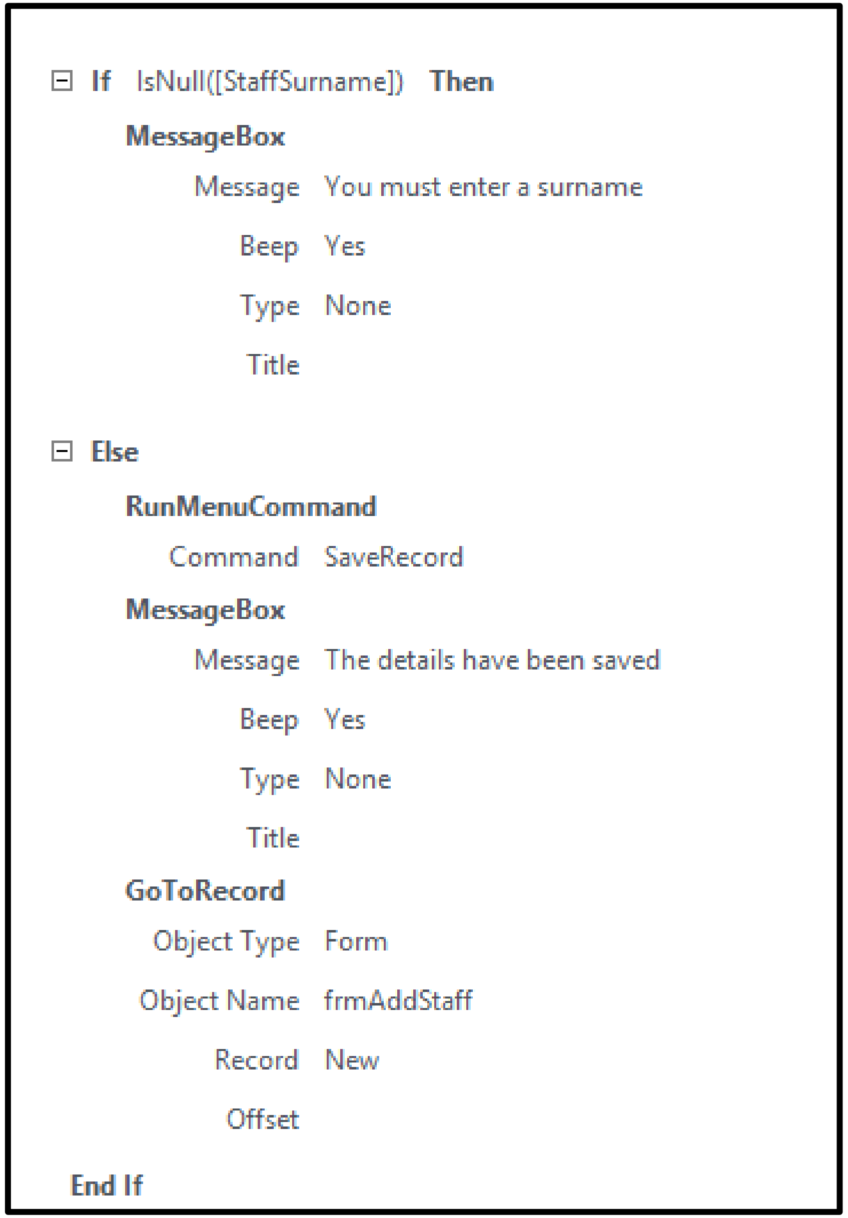
Form Header

Add New Staff

Detail

Enter the new staff member's details and select their availability and job role. Click Save.

Staff ID	StaffID
Staff Surname	StaffSurname
Staff Forename	StaffForename
Availability	Availability
Job Role	JobRoleID



```
If   IsNull([StaffSurname])   Then
    MessageBox
            Message   You must enter a surname
               Beep   Yes
               Type   None
              Title
Else
    RunMenuCommand
            Command   SaveRecord
    MessageBox
            Message   The details have been saved
               Beep   Yes
               Type   None
              Title
    GoToRecord
        Object Type   Form
        Object Name   frmAddStaff
             Record   New
             Offset
End If
```

Activity 6: Forms – Challenge Task – Coded Version

Look back at the ‘Get our Beaches Clean’ database slides and work out a coded version rather than building a macro.

Activity 6: Forms (1 hour 10 minutes) – 14 marks

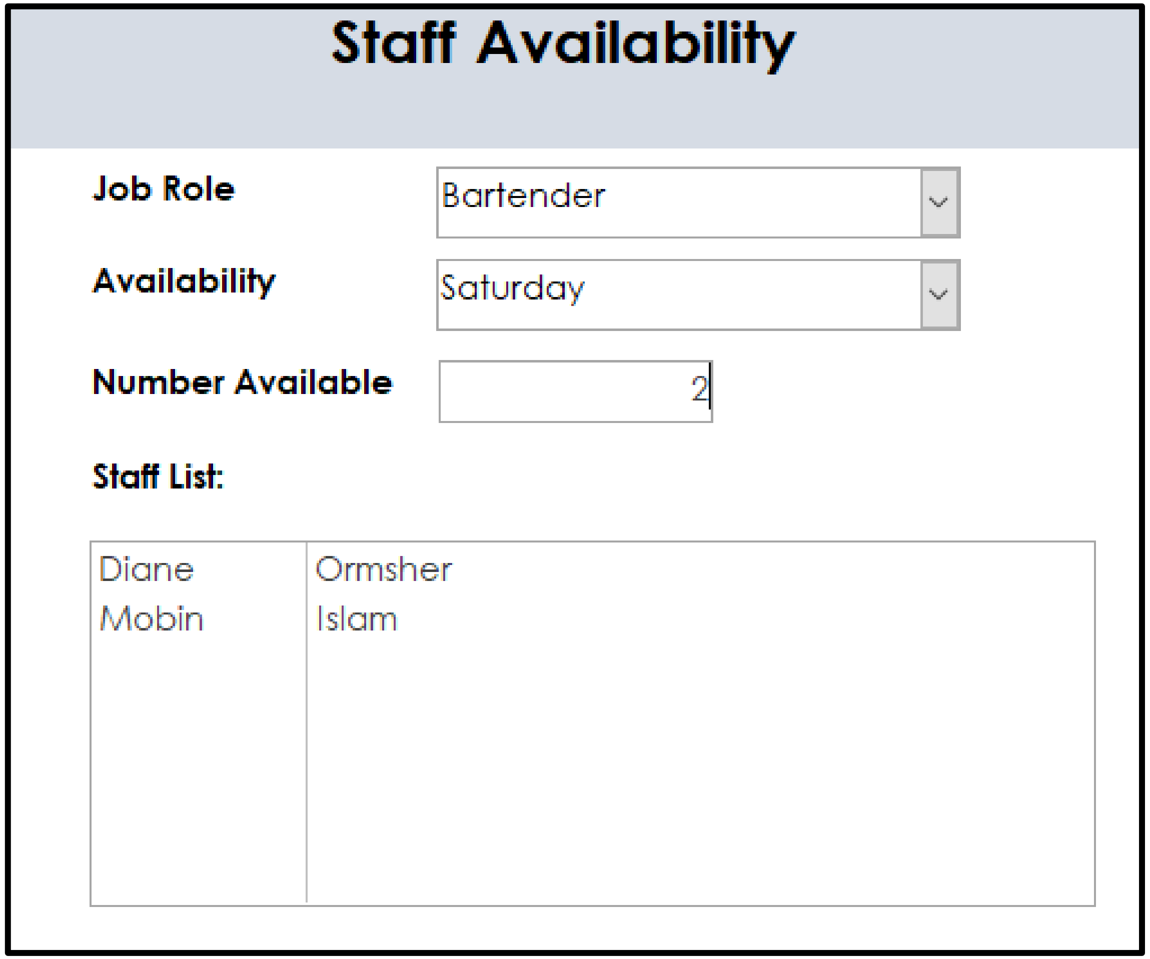
Create an efficient interface that will facilitate database input by producing:

(a) Create an efficient interface that will facilitate database input by producing:

(ii) an input form to check staff availability.

- The form should **not** include validation for any fields.
- The form should **not** include an automated routine to save the data.
- The user should be able to select the job role.
- The user should be able to select either Friday or Saturday as the day they want to check availability for.
- After the job role and day have been selected the form must display:
- a list of the names of staff members who are available
- the total number of staff available for the job role and day.

Activity 6: Forms – Staff Availability



Staff Availability

Job Role: Bartender

Availability: Saturday

Number Available: 2

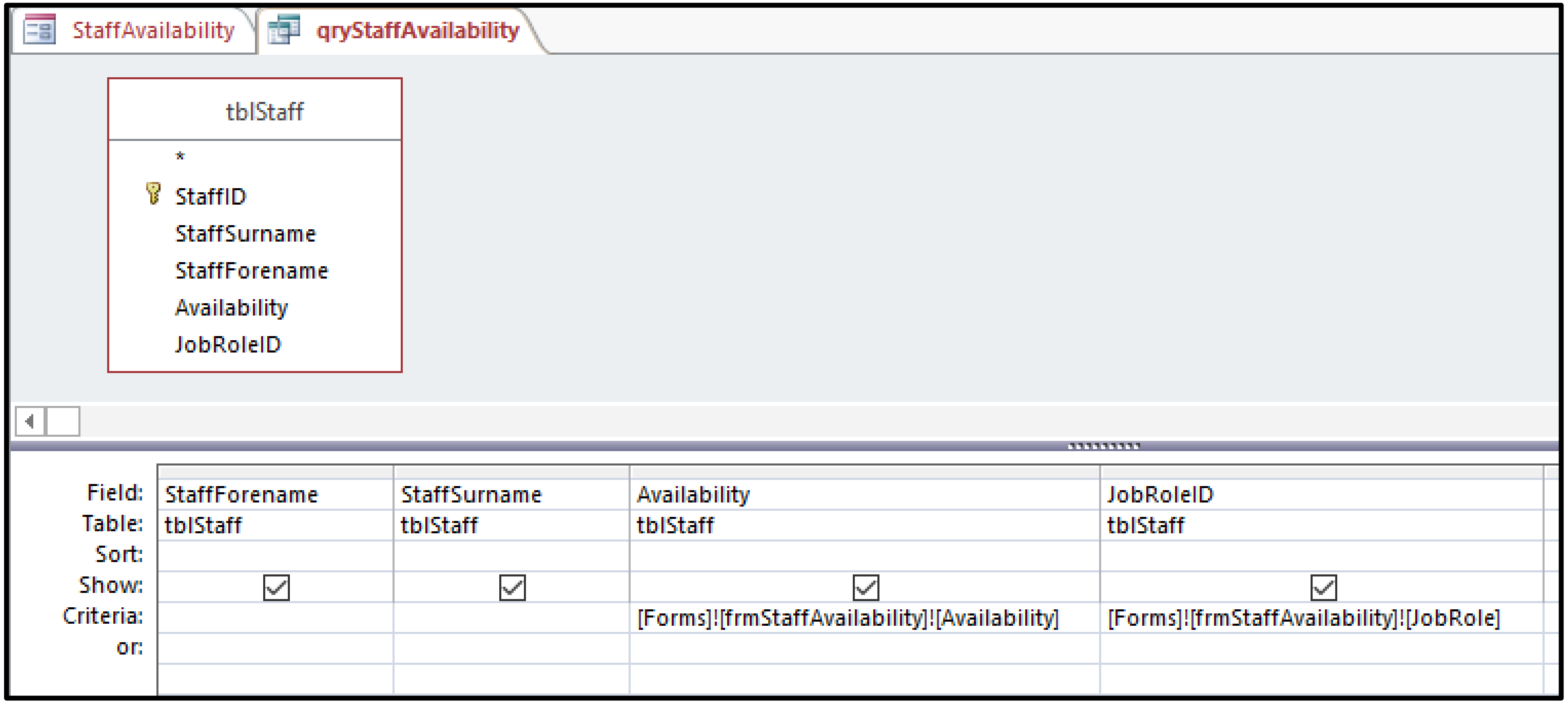
Staff List:

Diane	Ormsher
Mobin	Islam

You will build a form based on a query (next slide) that allows the user to select a job role and availability option, and then the staff available will appear in a list below. A calculation of the total staff available will also appear.

Activity 6: Forms

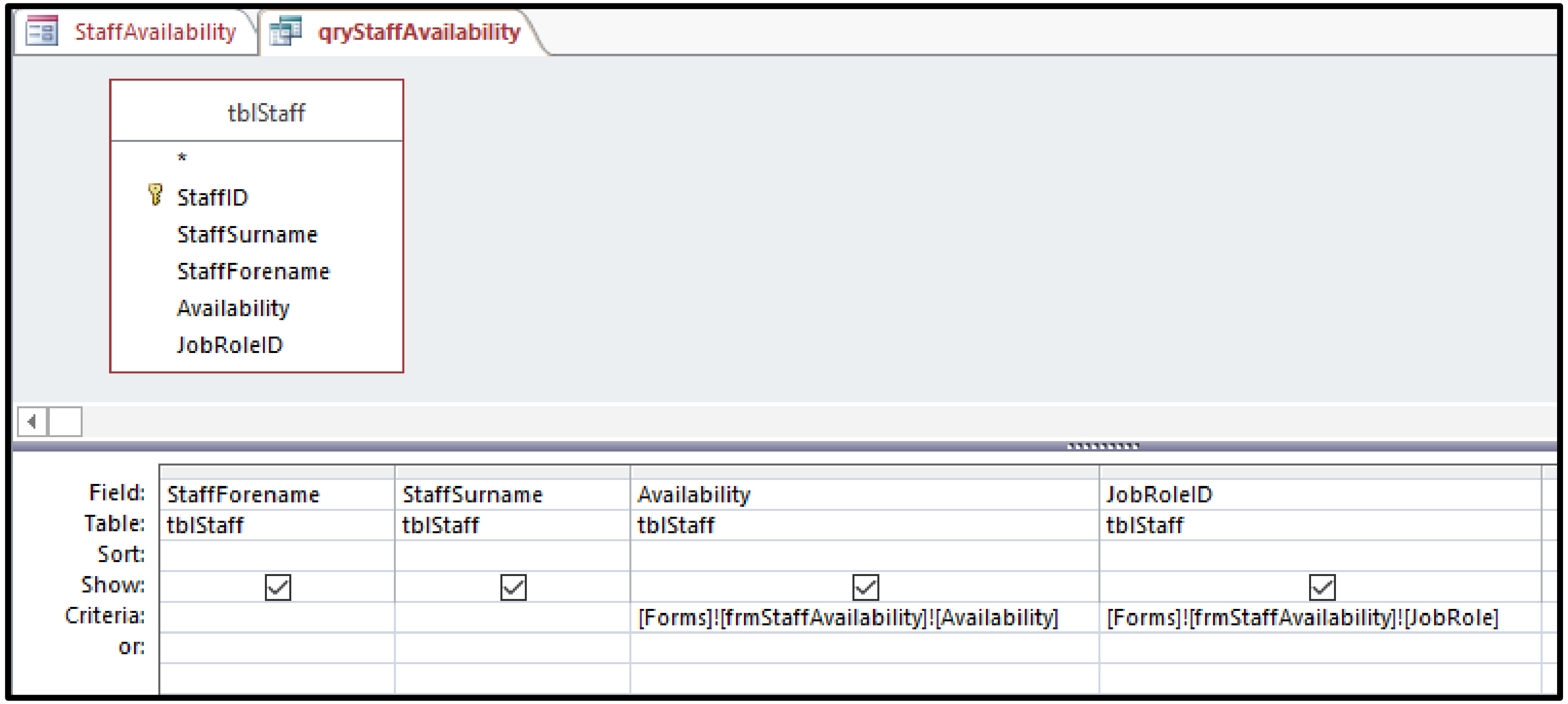
The Staff Availability form will be based on this query



tblStaff
*
StaffID
StaffSurname
StaffForename
Availability
JobRoleID

Field:	StaffForename	StaffSurname	Availability	JobRoleID
Table:	tblStaff	tblStaff	tblStaff	tblStaff
Sort:				
Show:	☑	☑	☑	☑
Criteria:			[Forms]![frmStaffAvailability]![Availability]	[Forms]![frmStaffAvailability]![JobRole]
or:				

Activity 6: Forms



StaffAvailability | qryStaffAvailability

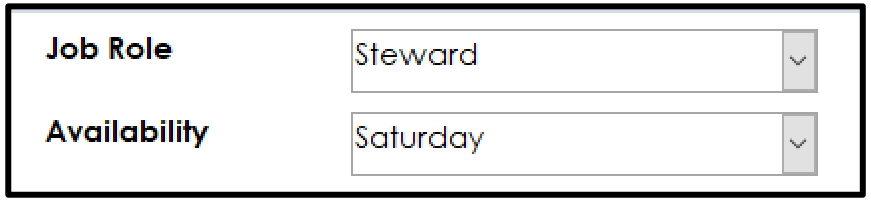
tblStaff
- *
- StaffID
- StaffSurname
- StaffForename
- Availability
- JobRoleID

Field:	StaffForename	StaffSurname	Availability	JobRoleID
Table:	tblStaff	tblStaff	tblStaff	tblStaff
Sort:				
Show:	☑	☑	☑	☑
Criteria:			[Forms]![frmStaffAvailability]![Availability]	[Forms]![frmStaffAvailability]![JobRole]
or:				

Note

The criteria used for Availability and Job Role fields is looking at the frmStaffAvailability to see what data is selected in those two combo boxes.

The query will only return data if the form is open with selections made in those two combo boxes.



Job Role	Steward
Availability	Saturday

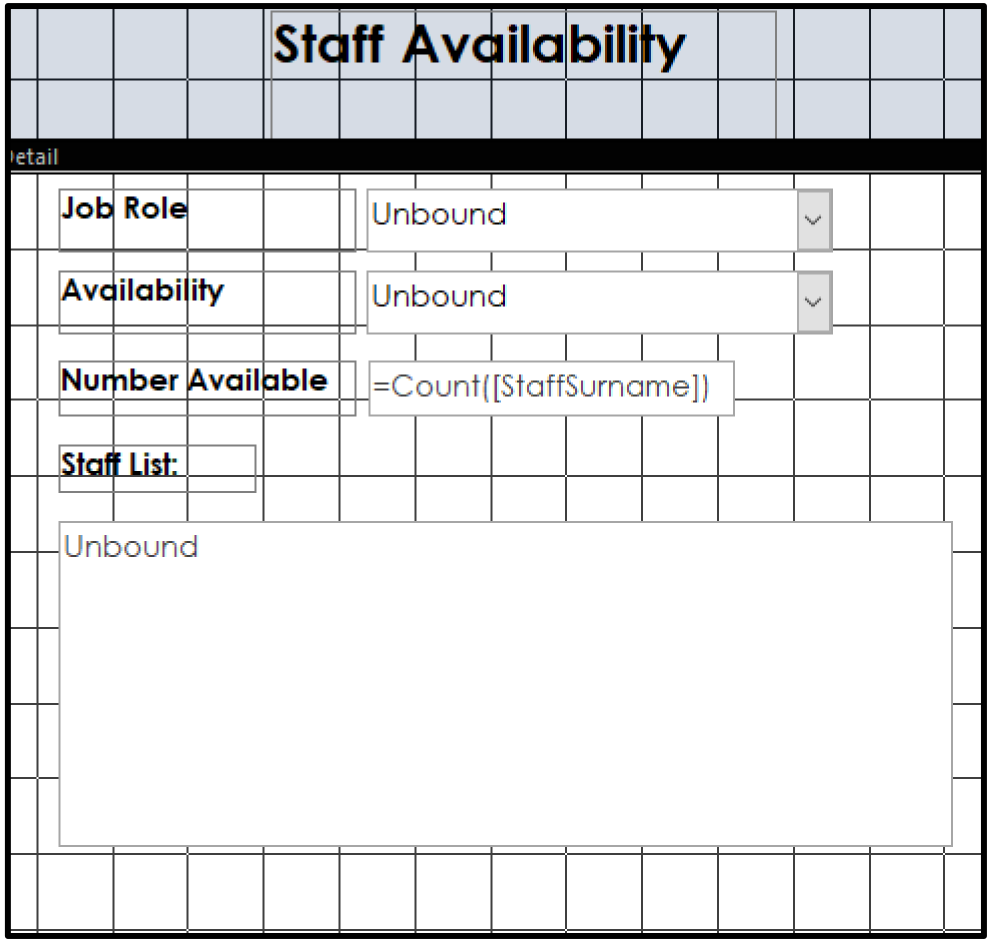
Activity 6: Forms – Staff Availability

Create a form based on qryStaffAvailability – but you don’t need to use any of the fields from the query on the form – you will add these from scratch. You just need the query linked so that the correct staff will show for the results.

Add two combo boxes to select:

- Job Role (table lookup for the values)
- Availability (type in the values Friday and Saturday)

Add a text box to calculate the number of available staff. You can build this calculation in the ‘Control Source’ – it will be counting the surnames in the query.



Staff Availability

etail

Job Role Unbound

Availability Unbound

Number Available =Count([StaffSurname])

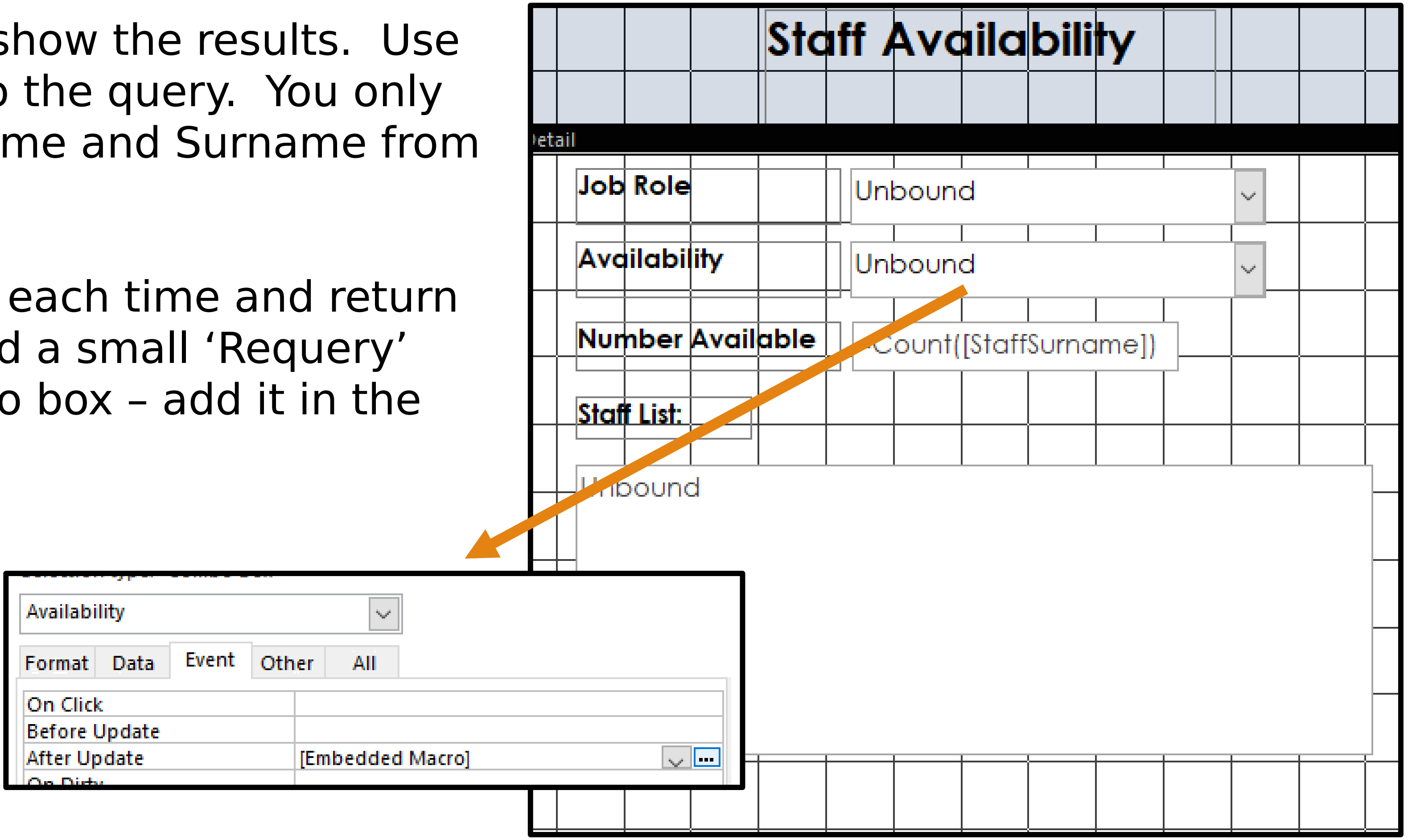
Staff List:

Unbound

Activity 6: Forms – Staff Availability

Add a ‘List Box’ to the form to show the results. Use the wizard to link the list box to the query. You only want to choose to show Forename and Surname from the query.

In order to make the query run each time and return a list of names, you have to add a small ‘Requery’ macro on the Availability combo box – add it in the ‘After Update’ property.



Staff Availability

etail

Job Role: Unbound

Availability: Unbound

Number Available: =Count([StaffSurname])

Staff List:

Unbound

Availability

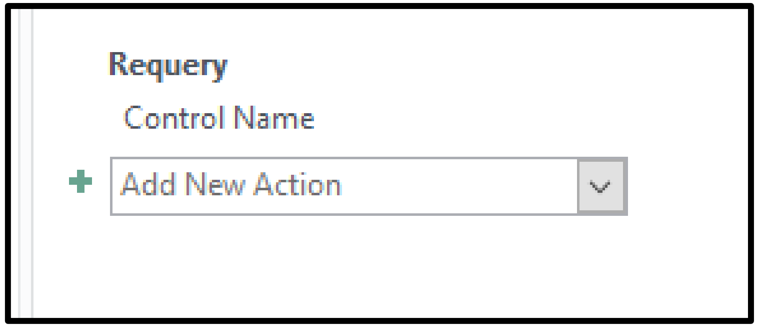
Format | Data | Event | Other | All

On Click:

Before Update:

After Update: [Embedded Macro]

On Dirty

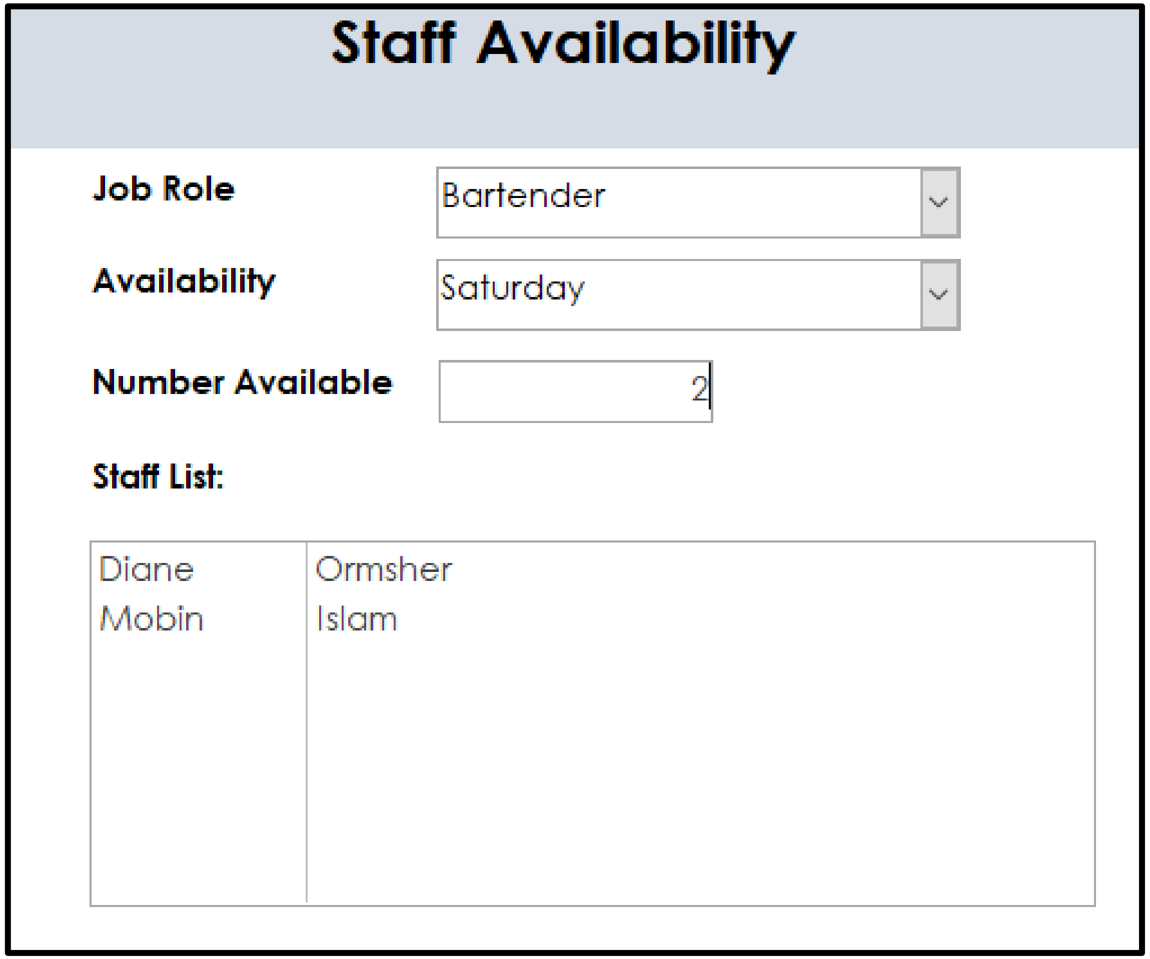


Requery

Control Name

Add New Action

Activity 6: Forms – Staff Availability



Staff Availability

Job Role	Bartender
Availability	Saturday
Number Available	2

Staff List:

Diane	Ormsher
Mobin	Islam

The form should now work

You can select a job role and a day and because there is a ‘Requery’ action that will run after availability is updated, the query will run and return the list of staff.

Note that this form is not built to update any underlying tables – the exam question says specifically that it doesn’t need to (no ‘save routine’ required.

Activity 8: Interface Testing

Test the interface of your relational database using appropriate test data
(normal, erroneous and extreme as appropriate).

You must provide evidence of **form level** testing that proves:

1. the user cannot select an invalid job role on the input form that adds a member of staff
2. the user cannot select invalid availability on the input form that adds a member of staff
3. a record will not save in the staff table without a staff member's forename
4. a record will save in the staff table if the staff member's details are present and valid
5. the correct list of staff members displays when the job role is 'Bartender' and the availability is 'Friday'
6. the correct total number of staff displays when the job role is 'Steward' and the availability is 'Saturday'

Display each test with correct data (normal) and incorrect data (erroneous)

For range checks you can also test with extreme data – the extreme ends of acceptable data (boundary data). E.g. a rule that says you must enter a number between 1 and 8 – you should test with both 1 and 8 to ensure it is accepted.

Activity 8: Interface evaluation

Evaluate your interface.

You should consider the quality, performance and usability of the interface you have created in terms of how well it ensures:

- the user cannot select an invalid job role
- the user cannot select invalid availability
- a record will not save in the staff table without a staff member’s forename
- a record will save in the staff table if the staff member’s details are present and valid
- the correct list of staff members displays when the job role is ‘Bartender’ and the availability is ‘Friday’
- the correct total number of staff displays when the job is ‘Steward’ and the availability is ‘Saturday’.

Activity 8: Interface evaluation – Questions to answer

You should consider the quality, performance and usability of the interface you have created in terms of how well it ensures:

- the user cannot select an invalid job role – what did you do to achieve this? How (table lookup)? Why did you do it that way? What would happen if you did not limit user choices in this way – what would happen to the data in the database (use the term 'data integrity')?
- the user cannot select invalid availability – as above.
- a record will not save in the staff table without a staff member's forename – talk through the macro you created. Why is it important that this is filled in?
- a record will save in the staff table if the staff member's details are present and valid – talk about only correct data saving in the underlying table. Refer to the message to the user – why is this important?
- the correct list of staff members displays when the job role is 'Bartender' and the availability is 'Friday' – talk about 'user friendliness' and 'ease of use' – how you are creating a user interface that makes it very easy to find out information – and is well presented.
- the correct total number of staff displays when the job is 'Steward' and the availability is 'Saturday' – for this talk about how you thoroughly tested to ensure the correct results are displayed

Database Terminology to include in your evaluation:

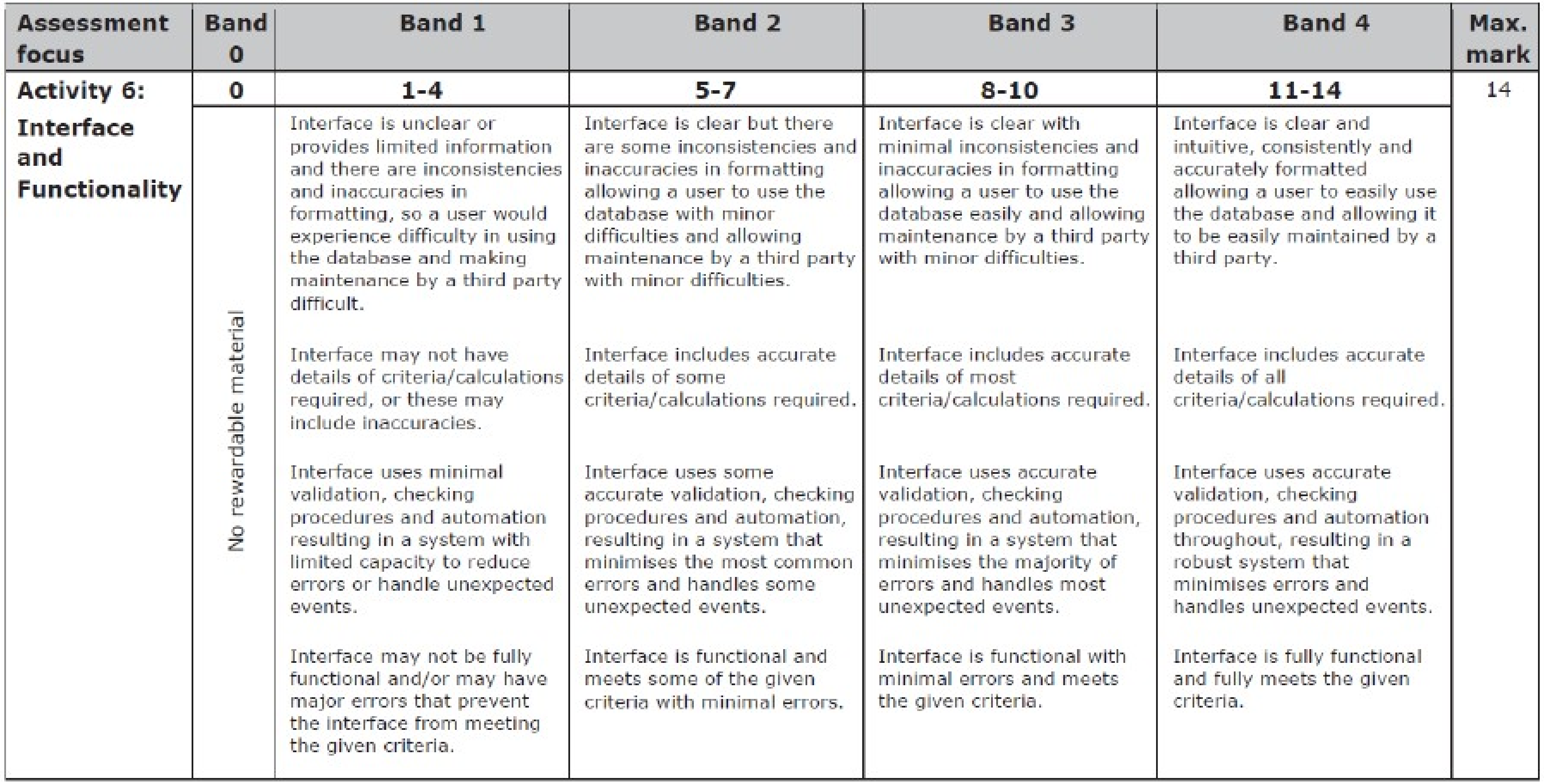
Look back at your Database Terminology worksheet:

- Database
- Field
- Record
- Table
- Relationship
- Entity
- Entity relationship (when talking about the table lookup or when talking about searching for available staff – can only do these things because of the sensible structure and creating relationships)
- Primary key
- Foreign key (e.g. table lookup again)
- User interface
- User friendly

Homework:

Complete the Testing and Evaluation activities from the exam paper.

Activity 6: Forms (1 hour 10 minutes) – 14 marks (Markscheme)



Assessment focus	Band 0	Band 1	Band 2	Band 3	Band 4	Max. mark
Activity 6: Interface and Functionality	0	1-4	5-7	8-10	11-14	14
	No rewardable material	Interface is unclear or provides limited information and there are inconsistencies and inaccuracies in formatting, so a user would experience difficulty in using the database and making maintenance by a third party difficult.	Interface is clear but there are some inconsistencies and inaccuracies in formatting allowing a user to use the database with minor difficulties and allowing maintenance by a third party with minor difficulties.	Interface is clear with minimal inconsistencies and inaccuracies in formatting allowing a user to use the database easily and allowing maintenance by a third party with minor difficulties.	Interface is clear and intuitive, consistently and accurately formatted allowing a user to easily use the database and allowing it to be easily maintained by a third party.	
		Interface may not have details of criteria/calculations required, or these may include inaccuracies.	Interface includes accurate details of some criteria/calculations required.	Interface includes accurate details of most criteria/calculations required.	Interface includes accurate details of all criteria/calculations required.	
		Interface uses minimal validation, checking procedures and automation resulting in a system with limited capacity to reduce errors or handle unexpected events.	Interface uses some accurate validation, checking procedures and automation, resulting in a system that minimises the most common errors and handles some unexpected events.	Interface uses accurate validation, checking procedures and automation, resulting in a system that minimises the majority of errors and handles most unexpected events.	Interface uses accurate validation, checking procedures and automation throughout, resulting in a robust system that minimises errors and handles unexpected events.	
		Interface may not be fully functional and/or may have major errors that prevent the interface from meeting the given criteria.	Interface is functional and meets some of the given criteria with minimal errors.	Interface is functional with minimal errors and meets the given criteria.	Interface is fully functional and fully meets the given criteria.	